

Summary

Research has shown a clear link between exposure to asbestos and respiratory cancers (cancer of the lungs and mesothelioma) in humans. However, the link between exposure to asbestos and other types of cancers is less clear.

Some epidemiologic studies suggest an association between gastrointestinal and colorectal cancers and asbestos exposure. However, very few studies suggest an elevated risk for cancers of the kidney, brain, larynx, and bladder and asbestos exposure.

Epidemiologic studies do not clearly support a consistent relationship between nonrespiratory cancers and asbestos exposure.

Introduction

Medical research has shown that people who are exposed to asbestos (through breathing in the asbestos fibers) have an increased risk of developing respiratory cancers such as lung cancer and mesothelioma (a rare form of lung cancer).

Some research suggests that exposure to asbestos also increases the risk of nonrespiratory cancers. However, despite a few studies reporting these associations, most studies do not show a consistent relationship between asbestos exposure and nonrespiratory cancers.

Following is an overview of studies on asbestos exposure and nonrespiratory cancers.

Gastrointestinal and Colorectal Cancers

Studies of asbestos workers suggest that asbestos exposure might be associated with gastrointestinal

(esophagus and stomach) and colorectal (colon and rectum) cancers. However, the evidence is unclear.

These studies showed small increases in the number of deaths from gastrointestinal and colorectal cancers. For example, among 17,800 insulation workers, 99 people died from these cancers, even though the rate in the general population is expected to be 59.4 deaths. Among 2,500 asbestos textile workers, 26 people died from these cancers, but 17.1 deaths were expected. Several other studies have shown similar patterns.

However, other mortality studies of asbestos workers found no significantly increased risk for gastrointestinal or colorectal cancers. Other reviewers found no causal relationship between workers' exposure to asbestos and gastrointestinal cancer.

Some evidence shows that short-term (acute) oral exposure to asbestos might bring on precursor lesions of colon cancer, and that long-term (chronic) oral exposure might increase the incidence of gastrointestinal tumors.

Most epidemiologic studies to see if cancer incidence is higher than expected in places with high levels of asbestos in drinking water detected increases in cancer deaths or incidence rates at one or more tissue sites (mostly in the gastrointestinal tract).

Some of these increases were statistically significant. However, the magnitudes of increases in cancer incidence tended to be rather small and might be related to other risk factors such as smoking. Also, these studies were conducted on worker populations, with generally higher exposures; still, only small and inconsistent elevations have been reported.

There is relatively little consistency in the observed increases across studies.

Kidney, Brain, Bladder, Laryngeal, and Other Cancers

Results of studies of cancers at other sites are also inconclusive. One reason is that relatively few studies have tried to evaluate the relation between asbestos exposure and nonrespiratory cancers.

Some studies have noted excess deaths from, or reported cases, of certain cancers such as the kidneys (two studies), brain (one study), and bladder (one study). Several epidemiologic studies have reported an increased risk of laryngeal cancer in workers exposed to asbestos.

In contrast, other epidemiologic studies have not found a strong link between increased risk of cancers and asbestos exposure (except for cancers of the lungs and surrounding areas). For example, one analysis concluded that misdiagnosis or chance may be the best explanation for asbestos-related cancer at any other site than the lungs or surrounding areas.

Another combined analysis of 55 studies did not find a significant association between occupational exposure to asbestos and laryngeal cancer and concluded that the evidence of a causal relationship was weak.

Another combined study of asbestos-exposed workers suggested a possible association between asbestos and laryngeal cancer. This same study found no clear association of asbestos exposure and urinary, reproductive, lymphatic, or hematopoietic cancers.

A final combined analysis of studies of asbestos workers providing data on laryngeal disease concluded that there was no evidence of a positive association between asbestos exposure and laryngeal cancer.

Conclusions

Studies show a strong link between respiratory cancers (cancers of the lung and mesothelioma) and exposure to asbestos in humans.

However, epidemiologic studies do not clearly or consistently show a strong link between cancers at other sites and exposure to asbestos in humans.

- Some epidemiologic studies suggest an association between gastrointestinal and colorectal cancers and asbestos exposure.
- Very few studies suggest elevated rates of cancers of the kidney, brain, larynx, and bladder and asbestos exposure.
- Although some evidence suggests that exposure to asbestos also increases the risk of nonrespiratory cancers, the evidence remains weak, compared to that of lung cancer and mesothelioma.

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(888) 42-ATSDR. . . that's (888) 422-8737

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